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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,228	07/29/2003	Hideki Takenaka	O3020.0350/P350	4760
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DICKSTEIN SHAPIRO LLP 1825 EYE STREET NW Washington, DC 20006-5403			EXAMINER LIEW, ALEX KOK SOON	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 07/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/628,228

Applicant(s)

TAKENAKA, HIDEKI

Examiner

Alex Liew

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This office action is in response to the RCE filed on June 21, 2007.

Response to Applicant's Arguments

The applicant stated on page 8: [More specifically, Turk does not teach or suggest that "when a face image is stored in the storage means subsequently, ... the determination means determines whether a face image detected by the detection means matches with the face image stored subsequently in the storage means by comparing both face images and displays a determination result." To the contrary, Turk requires that "a reference set of face images is obtained" previously during "initialization operation"]

The examiner agrees with the applicant. Turk does not disclose performing determination means for the second time, abstraction means and abstraction means to restore to the original human body images.

However, in the examiner's new search Prokoski (US pat no 6,496,594) discloses performing determination means for the second time (see column 17 lines 9 – 24 – when there is a potential match, further processing occurs to verify a match, processing such as comparing database images with captured image in a new rotated view or with another alignment). One skilled in the art would include another determination means because to increase improve accuracy of the face recognition in case the face in the captured image shows a different expression compared to the image in the database, which may produce some recognition error. The abstraction means is disclose by Yamamoto (US pub no 2004/0145657), shown in figure 5 – 502, which makes the face unrecognizable.

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The applicant also stated on page 9: [Yamamoto does not cure the failing of Turk.

Indeed, Yamamoto does not teach or suggest applying an abstraction process based on whether a subject's face "matches with the face image stored subsequently" at all, but rather based on the identity of the viewer.]

Turk teaches whether the face detected is a member of the family or not, if the identified face is a member of the family, then the identified face will be in the database, which reads on the face being a 'criminal,' (see column 8 lines 3 – 5) if the detected face is not in the database of images then it reads on the face being a 'non-criminal' (see column 7 lines 67 to column 8 lines 1 – 2).

Yamamoto suggests on paragraph 4, those who are being monitor feels unpleasant, so covering their faces with 'abstraction' procedure will protect their privacy. Turk discloses the 'criminals' and 'non-criminals', Yamamoto suggests protecting the faces of those who feels unpleasant; the examiner is combining applying 'abstraction' process to those who are 'non-criminals' and identifying those faces that matches with the system database, as shown by Turk.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 1, 2, 4/1, 4/2, 4/3, 5 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turk (US pat no 5,164,992) in view of Yamamoto (US pub no 2004/0145657) and Prokoski (US pat no 6,496,594).

With regards to claim 1, Turk discloses a face identification device comprising

detecting means for detecting face images from human body image taken by a camera (see col. 3 lines 18 – 21 and 37 – 41 – the audience sitting shows the entire body of the audience then head of a person is located),

storage means in which a face image of a criminal suspect is previously stored (see col. 6 lines 64 – 67 to col. 7 line 1 – there are N number of faces, where $k = 1, 2, \dots, N$, of the N faces one of the face will minimizes the error – those N faces are stored in storage),

determination means for determining whether a face image detected by the detection means matches with the face image stored in the storage means by comparing both face images (see col. 3 lines 43 – 45 – after the head of the person is located module 10 of the fig 1 determines whether the face is one of a reference set of faces) and

not applying abstraction process to a detected face image when said determination means determines that both face images match with each other (there is no process perform on the face image after being identified).

Turk does not teach abstraction process. Turk does teach identifying individuals who are in front of a television (col. 3 lines 17 – 25), these individuals' faces are either

identified as being a member of the family (see col. 8 lines 3 – 5), which is read as the 'criminals', or not identify, the person being a guest (see col. 7 line 67 to col. 8 lines 1 – 2), which is read as the 'non-criminals'. Yamamoto suggests on paragraph 4, those who are being monitor feels unpleasant, so covering their faces with 'abstraction' procedure will protect their privacy. Turk discloses the 'criminals' and 'non-criminals', Yamamoto suggests protecting the faces of those who feels unpleasant, all the examiner is combining is just applying 'abstraction' process to those who are 'non-criminals' and identifying those faces that matches with the system database, as shown by Turk.

The combination of Turk and Yamamoto disclose abstraction means for applying an abstraction process to a predetermined face image out of the face images detected by said detection means in order to make the predetermined face image unrecognizable (the faces of the guest / 'non-criminals', shown in Turk citation above, are covered with an 'abstraction' process, disclosed by Yamamoto, fig 5 using DCT) and not applying the abstraction process to a detected face image when the determination means determines that the detected face image is a criminal (in Turk nothing is done after the face had been identified except storing the face in storage medium, col. 8 lines 3 – 5). Yamamoto also discloses when a face image is stored in the storage means subsequently, the abstraction means restores to the original human body images taken by the camera (see figure 5 – 502 abstraction is perform on the captured image then recovered in 5 – 505).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include abstraction means because protect the privacy of the

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individuals who feels unpleasant when constantly being observe while criminals or suspicious individuals are being searched through surveillance camera (see paragraph 4).

Turk does not disclose performing determination means for the second time.

Prokoski discloses performing determination means for the second time (see column 17 lines 9 – 24 – when there is a potential match, further processing occurs to verify a match, processing such as comparing database images with captured image in a new rotated view or with another alignment). One skilled in the art would include another determination means because to increase improve accuracy of the face recognition in case the face in the captured image shows a different expression compared to the image in the database, which may produce some recognition error.

With regards to claim 2, Turk discloses all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference, but fails to disclose abstraction process is a mosaic process for making a face image portion mosaic.

Yamamoto discloses a face identification device according to claim 1, wherein said abstraction process is a mosaic process for making a face image portion mosaic (see paragraph 39). See the motivation for claim 1.

With regards to claim 4/1, Turk discloses all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference and a face identification device according to claim 1, wherein when a face image detected by

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said detection means is determined to match with the face image stored in said storage means, the image of the criminal suspect which is not applied with the abstraction process on the face (nothing is done after the face had been identified except storing the face in storage medium, col. 8 lines 3 – 5), but does not disclose abstraction process. Turk discloses individuals being identified and not being identified, those who are not identified are the 'non-criminals', and those who are identified are 'criminals.' Suggestion from Yamamoto teaching covering those individuals who are non-suspicion to protect their identity, so abstraction process are performed on those faces using DCT, see citations and motivation from claim 1.

With regards to claim 4/2 and 4/3, see the rationale and rejection for claim 4/1.

With regards to claims 5 – 7, 10, 11, 13 and 15, see the rationale and rejection for claim 1. In addition, Turk also discloses a video capturing device, which reads on digital camera and scanner, in figure 1 – 4, with a full apparatus performing the claim invention of Turk.

With regards to claim 8, see the rationale and rejection for claim 2.

With regards to claim 9, Turk discloses all of the claim elements / features as discussed above in rejection for claim 7 and incorporated herein by reference, but fails to disclose storing the version of the input image. Yamamoto discloses a system of claim 7, in

which the procedure further includes storing the version of the input image (see paragraph 38 – the video is playback implying the video is stored in a storage medium). See the motivation for claim 1. The playback video is part of the abstraction procedure.

With regards to claims 12 and 14, see the rationale and rejection for claim 1. In addition, Yamamoto discloses the reconstructed image of the face is 'playback' implying the face image was stored in a storage medium and made unrecognizable by using DCT coefficients and mosaic process (see paragraph 38).

3. Claims 3 / 1 and 3 / 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turk ('992) in view of Yamamoto ('657) and Prokoski ('594) as applied to claim 1 further in view of Lu (US pat no 5,771,307).

With regards to claim 3 / 1, Turk discloses all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference, but fails to disclose a detected face image is not applied with the abstraction process and is applied with a marker. Lu discloses a face identification device according to 1, wherein said determination means determines that both face images match with each other, a detected face image is not applied with the abstraction process and is applied with a marker (see col. 22 lines 4 – 6). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include a detected face image is not applied with the abstraction process and is applied with a marker because to prevent

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the same face to be mark again when making a second or third scan on the image to reduce processing power (see col. 22 lines 6 – 8).

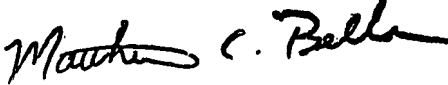
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Liew whose telephone number is (571)272-8623. The examiner can normally be reached on 9:30AM - 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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